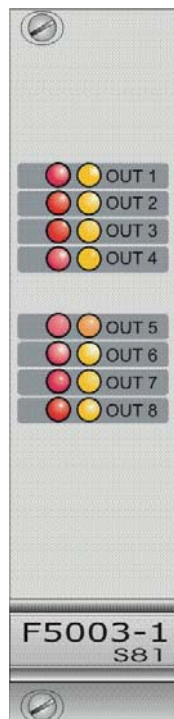


5.6

S81-F5003

**DESCRIPTION**

Card with eight controlled Output channels of 250mA for the command of sirens. The Outputs' command takes place through two virtual commands to pilot the Outputs in a steady and intermittent mode. The line is monitored through the inversion of polarities.

CHARACTERISTICS

- Redundancy: NO
- Test of channels: NO
- Operating modes: configurable through software.
- Maximum current of Outputs: 250mA
- Protection protection of Outputs: YES
- Supply voltage: 22-29Vdc
- Absorption in idle status: 25mA
- Operating temperature: -5 / +50 °C
- Storage temperature: -30 / +80 °C
- Maximum humidity: 95% without condensate

SIGNALS

Two status leds for each of the eight channels are located on the front panel.

Signals of status leds	Led OUT1/OUT8	
	Yellow light	Red light
Normal channel	-	-
Excluded/disabled channel	⊗	-
Failed channel	∅	-
Active channel	-	⊗
∅ = flashing ⊗ = steady on; - = light off;		

CONFIGURATION

It is possible to set the following parameters through ProS81 configuration program for each single Output channel:

Parameter	Mode
Activation mode	Fixed-NE, Fixed-ND, Periodical, Impulsive-1, Impulsive-2, ISA-1A, Delayed activation, delayed activation, delayed disabling
Period	from 1 to 255 seconds (only in impulsive and periodical modes)
Type of Output	Normal / Sounder

CONNECTIONS

This card can be terminated with the 16-terminal module S81-T8001-1 or with S81-CCT1 cable. A termination module S81-T8008-1 can be used in conjunction with this card to control up to four 2A sirens.

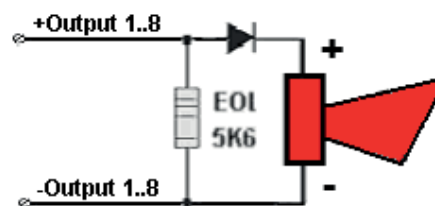
Connections with termination card

By using the bus of S81-E2001-1 model, the connection between the card and the field takes place through a 20-way flat cable and termination module S81-T8001-1 positioned on DIN bar inside the panel.

Connections of S81-T8001-1 terminal module		
Terminal	Function	Flat cable
Ø 1	+ Output 1	
Ø 2	- Output 1	
Ø 3	+ Output 2	
Ø 4	- Output 2	
Ø 5	+ Output 3	
Ø 6	- Output 3	
Ø 7	+ Output 4	
Ø 8	- Output 4	
Ø 9	+ Output 5	
Ø 10	- Output 5	
Ø 11	+ Output 6	
Ø 12	- Output 6	
Ø 13	+ Output 7	
Ø 14	- Output 7	
Ø 15	+ Output 8	
Ø 16	- Output 8	



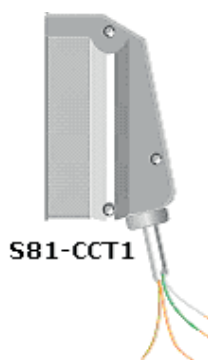
TYPICAL CONNECTION



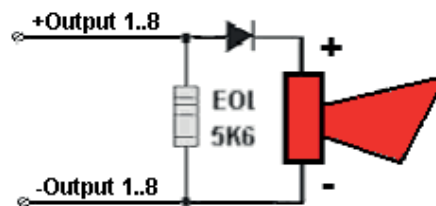
Connections with termination cable

Using a bus of S81-E2001-2 model, the connection between the card and the field takes place through a 16-conductor multipolar S81-CCT1 cable.

Connections with S81-CCT1 cables	
Cable colour	Function
White	+ Output 1
Brown	- Output 1
Green	+ Output 2
Yellow	- Output 2
Grey	+ Output 3
Pink	- Output 3
Blue	+ Output 4
Red	- Output 4
Black	+ Output 5
Purple	- Output 5
Grey/Pink	+ Output 6
Red/Blue	- Output 6
White/Green	+ Output 7
Brown/Green	- Output 7
White/Yellow	+ Output 8
Yellow/Brown	- Output 8



TYPICAL CONNECTION

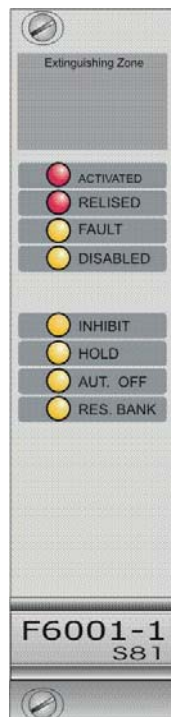


ORDERING INFORMATION

Part Number	DESCRIPTION	notes
S81-F5003-1	Module with 8 250mA controlled Outputs for sirens	Non redundable
S81-T8001-1	Termination with 16 terminals for S81-F5003-1 modules	Anchoring to DIN bar
S81-T8008-1	Module with 4x2A 30Vdc relays for siren control	Anchoring to DIN bar
S81-CFT20/2	Flat cable for termination module S81-T8001-1	Length 2 metres
S81-CCT1	Termination cable for S81-F5003-1 modules	Length 3 metres

5.8

S81-F6001

**DESCRIPTION**

This card is used to manage logics and signals relative to an extinguishing area in order to meet the requirements of EN12094-1 standard. It manages ten Output variables and seven Input variables. In addition to warnings, it also performs some logics which are typical of extinguishing systems, as discharge delay and resetting inhibition time. It is also equipped with eight non programmable open collector Outputs which indicate the main statuses of the extinguishing area.

CHARACTERISTICS

- Safety related: applicable up to SIL 3 according to IEC 61508
- Redundancy: NO
- Test of channels: NO
- Operating modes: configurable through software.
- Maximum current of Outputs: 250mA
- Protection protection of Outputs: NO
- Supply voltage: 22-29Vdc
- Absorption in idle status: 12mA
- Operating temperature: -5 / +50 °C
- Storage temperature: -30 / +80 °C
- Maximum humidity: 95% without condensate

SIGNALS

Eight leds are located on the front panel that perform the following functions:

Led	Signs
Activated	It turns on steady in the active status. It turns off after the reset command
Released	It turns on steady in the release status. It turns off after the reset command
Fault	It flashes after an anomaly is detected in the extinguishing area
Disabled	It turns on steady after a disabling in the extinguishing area
Inhibit	It turns on steady in the inhibit status
Hold	It turns on steady in the Hold status
Aut. OFF	It turns on steady in the excluded Automatic status
Res. Bank	It turns on steady by selecting the back-up battery

CONFIGURATION

The card manages the following variables:

variable	Type	DESCRIPTION
V1	In	Active status
V2	In	Main primary discharge
V3	In	Back-up primary discharge
V4	In	Main secondary discharge
V5	In	Back-up secondary discharge
V6	In	Intermittent sound signals
V7	In	Steady sound signals
V1	OUT	Manual enabling
V2	OUT	Automatic enabling
V3	OUT	Automatic mode excluded
V4	OUT	Emergency extension (Hold)
V5	OUT	Extinguishing inhibition
V6	OUT	Back-up battery
V7	OUT	Secondary discharge
V8	OUT	System intervened
V9	OUT	General anomaly
V10	OUT	General disabling

It is possible to set the following parameters through ProS81 configuration program for each virtual parameter:

Parameter	Type	Mode
Channel's operating mode	Input	NA
Alarm/Active status	Input	Not held
Alarm signalling methods	Input	Normal / Silent / Buzzer only
Activation mode	Output	Fixed-ND
Type of Output	Output	Normal

It is possible to set the following parameters through the operator's cycle for each card:

Parameter	Mode
Extinguishing delay time	0-60 seconds
Resetting inhibition time	1-30 minutes
Hold function mode	Mode-A / Mode-B



NB: When a card of this type is substituted, remember to manually re-program these values.

CONNECTIONS

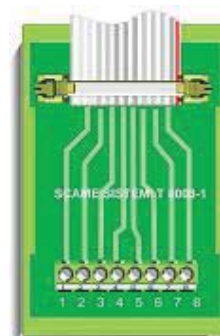
This card can be terminated with the 8-terminal module S81-T8003-1 or with S81-CCT3 cable.

Connections with termination card

By using the bus of S81-E2001-1 model, the connection between the card and the field takes place through a 20-way flat cable and termination module S81-T8003-1 positioned on DIN bar inside the panel.

Connections of S81-T8003-1 terminal module		
Terminal		Flat cable
Ø 1	- Activated Output	
Ø 2	- Released Output	
Ø 3	- Fault Output (*)	
Ø 4	- Disabled Output	
Ø 5	- Inhibit Output	
Ø 6	- Hold Output	
Ø 7	- Automatic-Off Output	
Ø 8	- Reserve Bank Output	

(*) Normally engineered Output



S81-T8003-1

Connections with termination cable

By using the bus of S81-E2001-2 model, the connection between the card and the field takes place through the 4-conductor multipolar cable S81-CCT3.

Connections with S81-CCT3 cables	
Cable colour	Function
White	- Activated Output
Brown	- Released Output
Green	- Fault Output (*)
Yellow	- Disabled Output
Grey	- Inhibit Output
Pink	- Hold Output
Blue	- Automatic-Off Output
Red	- Reserve Bank Output

(*) Normally engineered Output



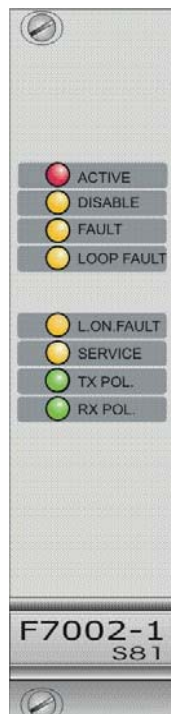
S81-CCT3

ORDERING INFORMATION

Part Number	Description	Notes
S81-F6001-1	Control module for extinguishing systems	Non redundable
S81-T8003-1	Termination with 8 terminals for S81-F6001-1 modules	Anchoring to DIN bar
S81-CFT20/2	Flat cable for S81-T8003-1 termination modules	Length 2 metres
S81-CCT3	Termination cable for S81-F6001-1 modules	Length 3 metres

5.9

S81-F7002

**DESCRIPTION**

Control card for devices addressed with ESP protocol. It manages up to 127 devices of max. 3 points each.

CHARACTERISTICS

- Redundancy: NO
- Operating modes: configurable through software.
- No. of devices for each loop: 127
- Maximum loop's current: 250mA
- Supply voltage: 22-29Vdc
- Absorption in idle status: 65mA
- Operating temperature: -5 / +50 °C
- Storage temperature: -30 / +80 °C
- Maximum humidity: 95% without condensate

SIGNALS

Eight leds are located on the front panel that perform the following functions:

Led	Signs
Active	It turns on steady with an Input in alarm/active status
Disabled	It turns on steady with a disabled Input or Output
Fault	It flashes in the presence of a Fault status.
Loop Fault	It flashes after a short circuit or an opening on the loop
Log on Fault	It flashes in case of discrepancy between detected and programmed devices
Service	It flashes in presence of smoke detectors with dirty optics
TX Pol.	It turns on each time the card transmits data towards the devices on the loop
RX Pol.	It turns on each time the data coming from the devices on the loop are received

This type of card is able to manage the following types of modules:

type of device	Controlled Inputs	Non controlled Inputs	Analogue Inputs	Controlled Outputs	Non Controlled Outputs	notes
ALG-E	-	-	1	-	-	Fed by loop
ATG-E	-	-	1	-	-	Fed by loop
AIE-E	-	-	1	-	-	Fed by loop
ACA-E	-	-	2	-	-	Fed by loop
ACB-E	-	-	2	-	-	Fed by loop
S81-Mod-AN	-	-	1	-	-	Need for external supply
CHQ-CP	-	1	-	-	-	Fed by loop
CHQ-MZ	1	-	-	-	-	Fed by loop
CHQ-Z	2	-	-	-	1	Need for external supply
CHQ-S	-	2	-	-	-	Fed by loop
CHQ-R	1	-	-	3	2	Fed by loop
CHQ-B	1	-	-	2	-	Need for external supply
CHQ-BS	-	-	-	-	1	Fed by loop
YBO-BS	-	-	-	-	1	Fed by loop
CHQ-WS2	-	-	-	-	1	Fed by loop
YBO-BSB	-	-	-	-	2	Fed by loop
CHQ-ARI	-	-	-	-	1	Fed by loop
CHQ-AB	-	-	-	-	1	Fed by loop

CONFIGURATION

Through configuration program ProS81, it is possible to set the following parameters for each point of the single devices, based on the type of device:

Parameter	Type	Mode
Operating mode	Input	NA / NO
Alarm/Active status	Input	Held/Not held
Sensitivity	Input	High / Average / Low
Measurement range	Input	See table
Thresholds	Input	Pre-alarm / Alarm (See table)
Alarm signalling methods	Input	Normal / Silent / Buzzer only
Activation mode	Output	Fixed-NE, Fixed-ND, Periodical, Impulsive-1
Period	Output	from 1 to 15 seconds (only in impulsive and periodical modes)
Type of Output	Output	Normal / Sounder
Siren's sound	Output	from 1 to 7
Siren's volume	Output	50,55,60,70,78,80,85,88,90,93,94,95,98 decibel

For the analogue module of S81-Mod-AN type, the following measurement ranges can be programmed with the relative thresholds:

Measurement range	Pre-alarm threshold	alarm threshold
0-10 ppm	0.0-10.0	0.0-10.0
0-20 ppm	0.0-20.0	0.0-20.0
0-50 ppm	0-50	0-50
0-100 ppm	0-100	0-100
0-200 ppm	0-200	0-200
0-100 %LEL	0-100	0-100
0-25 %O ₂	0.0-25.0	0.0-25.0
15-25 %O ₂	15.0-25.0	15.0-25.0
4-20 mA	4.0-20.0	4.0-20.0
0-100 °C	0-100	0-100

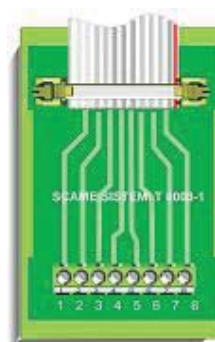
CONNECTIONS

This card can be terminated with the 8-terminal module S81-T8003-1 or with S81-CCT4 cable.

Connections with termination card

By using the bus of S81-E2001-1 model, the connection between the card and the field takes place through a 20-way flat cable and termination module S81-T8003-1 positioned on DIN bar inside the panel. It is not possible to redound modules with this type of termination.

Connections of S81-T8003-1 terminal module		
Terminal	Function	Flat cable
Ø 1	+ Loop Output	
Ø 2	- Loop Output	
Ø 3	+ Loop Input	
Ø 4	- Loop Input	
Ø 5	N.C.	
Ø 6	N.C.	
Ø 7	N.C.	
Ø 8	N.C.	



S81-T8003-1

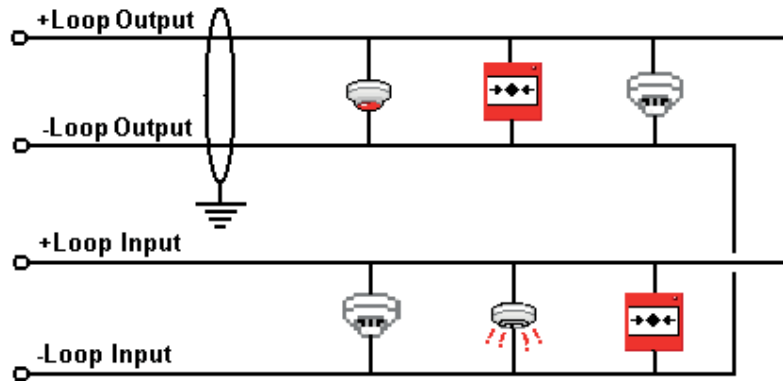
Connections with termination cable

By using the bus of S81-E2001-2 model, the connection between the card and the field takes place through the 4-conductor multipolar cable S81-CCT4.

Connections with S81-CCT4 cables	
Cable colour	Function
White	+ Loop Output
Brown	- Loop Output
Green	+ Loop Input
Yellow	- Loop Input



S81-CCT4

TYPICAL CONNECTION**ORDERING INFORMATION**

Part Number	Description	notes
S81-F7002-1	Control module for ESP bus	Non redundable
S81-T8003-1	Termination with 8 terminals for S81-F7002-1 modules	Anchoring to DIN bar
S81-CFT20/2	Flat cable for termination module S81-T8003-1	Length 2 metres
S81-CCT4	Termination cable for S81-F7002-1 modules	Length 3 metres

7.1 S81-T8001

DESCRIPTION

Termination card with sixteen terminals. It is used with buses of S81-E2001-1 type to terminate the following cards:

S81-F3002-1

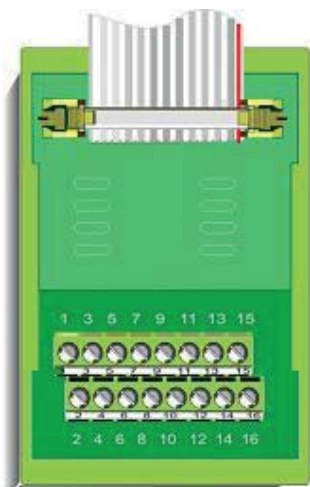
S81-F3002-3

S81-F5002-1

S81-F5003-1

CHARACTERISTICS

- Connector for flat cable with blocking fins and golden contacts
- Assembly on DIN bar
- Sizes L 57 x H 77 x D 60 mm



CONNECTIONS

Terminal	S81-F3002	S81-F5002	S81-F5003	Flat cable
Ø 1	+ Input 1	- Output 1	+ Output 1	Rack connection 19" 1919"
Ø 2	- Input 1	- Output 2	- Output 1	
Ø 3	+ Input 2	- Output 3	+ Output 2	
Ø 4	- Input 2	- Output 4	- Output 2	
Ø 5	+ Input 3	- Output 5	+ Output 3	
Ø 6	- Input 3	- Output 6	- Output 3	
Ø 7	+ Input 4	- Output 7	+ Output 4	
Ø 8	- Input 4	- Output 8	- Output 4	
Ø 9	+ Input 5	- Output 9	+ Output 5	
Ø 10	- Input 5	- Output 10	- Output 5	
Ø 11	+ Input 6	- Output 11	+ Output 6	
Ø 12	- Input 6	- Output 12	- Output 6	
Ø 13	+ Input 7	- Output 13	+ Output 7	
Ø 14	- Input 7	- Output 14	- Output 7	
Ø 15	+ Input 8	- Output 15	+ Output 8	
Ø 16	- Input 8	- Output 16	- Output 8	

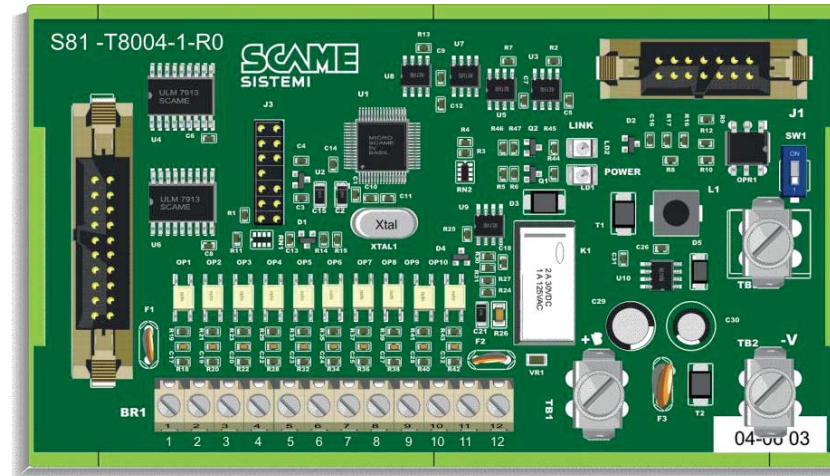
ORDERING INFORMATION

Part Number	DESCRIPTION	notes
S81-T8001-1	termination module with 16 terminals	
S81-CFT20/2	Flat cable for termination module S81-T8001-1	Length 2 metres

7.5 S81-T8004

DESCRIPTION

This card manages 10 digital Inputs, 16 open collector Outputs and a 250mA controlled Output to command the local siren relative to the fire functions. In addition, this card performs the dispersion check towards the ground of the main supply voltage. It can be used in combination with S81-T8001-1 card to have 16 open collector Outputs of 250mA each or with S81-T8007-1 card to have 16 SPDT contacts.



CHARACTERISTICS

- Supply voltage: 22-29Vdc
- Absorption in idle status: 100mA
- Operating temperature: -5 / +50 °C
- Storage temperature: -30 / +80 °C
- Maximum humidity: 95% without condensate
- Maximum current of O.C. Outputs: non protected 250 mA
- Maximum current of local siren's Output: 250mA electronically protected

SIGNALS

Two green leds are located on the card that perform the following functions:

Led	Condition
Power	Steady-on when voltage is present
Link	Steady-on when the communication link with S81-U1006-1 card is present

CONFIGURATION

A one-way dip-switch is present on the card, which is used to enable the dispersion control towards the ground of the power supply.

SW1	DESCRIPTION
ON	Dispersion control towards the ground of power supply enabled
OFF	Dispersion control towards the ground of power supply disabled



Warning: The power supply of S81 unit is not referred to the ground. Some devices as for example personal computers have the negative pole of the power supply connected to the ground for safety reasons. The connection of these devices to the unit causes to signal the anomaly of dispersion anomaly. To avoid this, position dip switch SW1 in position OFF.

CONNECTIONS

TB1-TB2-TB3 Power supply

These three faston connectors are used to connect the power supply (+25Vdc) and ground connection.

TAG	Function	Cable colour
TB1	Positive pole of 25Vdc power supply	Red
TB2	Negative pole of 25Vdc power supply	Black
TB3	Ground	Yellow/Green

J1 -> J1 S81-E2003-1

It is a connector for a 14-pole flat cable that allows connection with the S81-E2003-1 Bus card. To perform this connection, use S81-CFT14/2 cable.

J2 -> J1 S81-T8001-1 o J1 S81-T8007-1

It is a connector for a 20-pole flat cable that allows connection with the S81-T8001-1 termination card or with a 16-relay S81-T8007-1 card. To perform this connection, use S81-CFT20/05 cable.

Connections with 16-terminal S81-T8001-1 termination card. In this configuration, the Outputs are of open collector type able to supply a maximum current of 250mA.

TAG	Function	Safety	Security	Normal Energized
Ø M1	Supervisory alarm	☑		
Ø M2	Fire alarm	☑		
Ø M3	General fault	☑		☑
Ø M4	General disabling	☑		
Ø M5	Local buzzer	☑		
Ø M6	Gas alarm	☑		
Ø M7	Intruder alarm		☑	☑
Ø M8	Intruder tamper		☑	☑
Ø M9	General fault		☑	☑
Ø M10	External intruder horn		☑	☑
Ø M11	20% battery autonomy	☑	☑	☑
Ø M12	System in RUN	☑	☑	☑
Ø M13	System's failure	☑	☑	☑
Ø M14	Power supply's failure	☑	☑	☑
Ø M15	CPU's failure	☑	☑	☑
Ø M16	Reset	☑		Impulsive

Connection with a 16-relay S81-T8007-1 termination card. In this configuration, the Outputs are of relay type with a SPDT 4A contact.

T 8007-1			Relays order																							
NC= Normally Closed NO= Normally Open COM= Common	BR1 BLOCK	K1			K2			K3			K4			K5			K6			K7			K8			
		NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	BR2 BLOCK	K9			K10			K11			K12			K13			K14			K15			K16			
		NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		



This outputs are not of type C, E or J (EN 54-1), therefore must not be use for commanding fire alarm devices and devices for transmission of fire alarm, and Fault. This with the purpose to guarantee the certification conformity to the norm EN-54-2.

Description of relays of S81-T8007-1 card.

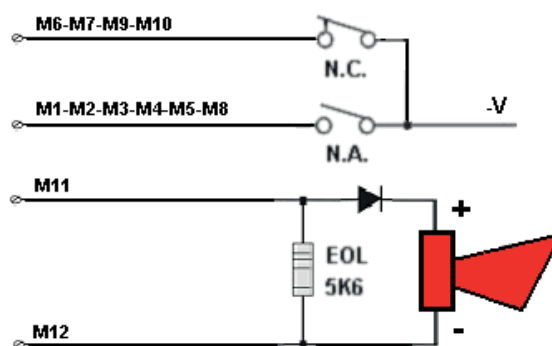
Relay	Function	Safety		Normal Energized
K1	Supervisory alarm	☑		
K2	Fire alarm	☑		
K3	General fault	☑		☑
K4	General disabling	☑		
K5	Local buzzer	☑		
K6	Gas alarm	-		-
K7	Intruder alarm			☑
K8	Intruder tamper			☑
K9	General fault			☑
K10	External intruder horn			☑
K11	20% battery autonomy	-		-
K12	System in RUN	☑		☑
K13	System's failure	☑		☑
K14	Power supply's failure	☑		☑
K15	CPU's failure	☑		☑
K16	Reset	☑		Impulsive

BR1 Terminal Streep

It is a 12-way terminal for the connection of ten default Inputs and local fire alarm siren.

TAG	Function	notes
Ø M1	Remote Input, local acknowledgement	N.A.
Ø M2	Remote Input, sirens' acknowledgement	N.A.
Ø M3	Remote Input, Panel Resetting	N.A.
Ø M4	Evacuation remote Input	N.A.
Ø M5	Battery status (charge/supply)	OV under charge
Ø M6	Anomaly to primary power supply PSU1	N.C.
Ø M7	Anomaly to secondary power supply PSU2	N.C.
Ø M8	Charge status of batteries (Fully charged/Maintenance)	OV fully charged
Ø M9	External Fault	N.C.
Ø M10	External Tamper	N.C.
Ø M11	Positive pole of Output, local fire alarm siren	250mA max.
Ø M12	Negative pole of Output, local fire alarm siren	250mA max.

TYPICAL CONNECTION



ORDERING INFORMATION

Part Number	Description	notes
S81-T8004-1	Default I/O module	
S81-T8001-1	termination module with 16 terminals for DIN bar	
S81-T8007-1	Module with 16 relays with 4A 24Vac/dc SPDT contact	For default Outputs
S81-CFT20/05	Flat cable for termination module	Length 5 centimetres
S81-CFT14/2	Flat cable for connection to S81-E2003-1 card	Length 2 metres